

## REMARKS

In the outstanding Final Official Action, claims 1-4, 6-10, 13, 22 and 23 were rejected under 35 U.S.C. §103(a) over PETT et al. (U.S. Patent No. 6,240,178) in view of ATKINSON et al. (U.S. Patent No. 5,093,856). Claims 5, 24 and 25 were rejected under 35 U.S.C. §103(a) over PETT in view of ATKINSON, and further in view of SCHMIDT et al. (U.S. Patent No. 6,389,109). Claim 11 was rejected under 35 U.S.C. §103(a) over PETT in view of ATKINSON, and further in view of MARTIN (U.S. Patent No. 4,622,442). Claim 12 was rejected under 35 U.S.C. §103(a) over PETT in view of ATKINSON, and further in view of CHARLES (U.S. Patent No. 5,929,402 – mistakenly identified in the Final Official Action as U.S. Patent No. 4,622,442). Claims 14-21 were rejected under 35 U.S.C. §103(a) over PETT in view of ATKINSON, and further in view of SCHMIDT, and further in view of MARTIN, and further in view of CHARLES.

Applicant traverses each of the above-noted rejections. Applicant submits that each of claims 1, 14, 22 and 24 recites a combination of features which are not disclosed, suggested or rendered obvious by the combinations of references applied in the outstanding Final Official Action.

The outstanding Final Official Action admits that PETT does not disclose or suggest an adaptor including a “capacitor in parallel with one of another capacitor and a diode” as recited in each of claims 1, 14, 22 and 24. However, with respect to the rejections of each of claims 1, 14, 22 and 24, the outstanding Final Official Action asserts that it “would have been obvious to one skilled in the art... to apply the parallel diode as taught by Atkinson to the capacitor in the system taught by [PETT] for the purpose of protecting the capacitor from surges”.

Initially, Applicant submits that, contrary to the assertion of the outstanding Final Official Action, the prior art does not disclose or suggest any motivation to modify the teachings of PETT with the teachings of ATKINSON. Applicant additionally submits that, contrary to the assertions of the outstanding Final Official Action, even the modification of PETT with the teachings of ATKINSON has not been shown to, and would not, result in the invention recited in claims 1, 14, 22 and 24.

The outstanding Final Official Action fails to establish any motivation to modify the teachings of PETT with the teachings of ATKINSON. For example, neither PETT nor ATKINSON discloses or suggests any motivation to protect a capacitor in PETT from surges by using a diode in parallel with a capacitor. Further, as is explained below, neither PETT or ATKINSON discloses or suggests any motivation to apply the diode of ATKINSON to the bridged tap terminator of PETT.

ATKINSON discloses, at col. 4, lines 45-50, that a “[z]ener diode 235 is used to protect from high-voltage surges on the telephone line”. The zener diode 235 is shown in FIGs. 2 and 3A of ATKINSON. However, ATKINSON does not disclose that the diode 235 is placed in parallel with a capacitor. For example, FIG. 3A in ATKINSON discloses that the terminals of diode 235 are not common with any other single element, let alone a capacitor, as is required for the diode 235 to be in parallel with such an element. Rather, the diode 235 is used generally to protect the system of ATKINSON from surges on telephone line T, as shown in FIG. 2.

Furthermore, the diode 235 in ATKINSON is used in a “home security system which inserts into series jack 110 via electrical plug 105” (see col. 4, lines 2-4). The “home security system” of ATKINSON is customer premise equipment, and is not

analogous to a digital signal line transmission system or digital signal line service as variously recited in claims 1, 14, 22 and 24. In other words, ATKINSON is not in any way related to an adaptor that is “connected to [a] bridgetap line” (claim 1) or “connected adjacent to a second end of said bridgetap line” (claim 14). Further, ATKINSON is not in any way related to changing “a resonance characteristic of [a] bridgetap line... with an adaptor” (claim 22) or “connecting a portion of said bridgetap adjacent an end thereof with an adaptor” (claim 24).

Applicant further notes PETT discloses very specific filter and matching circuits which result in specific desirable characteristics that would be altered or lost if the circuits were casually modified in the manner asserted in the outstanding Final Official Action. In this regard, PETT discloses that filter 60 is implemented with a matching circuit 62 that “provides impedance matching using RL and CL” (emphasis added), presumably by ensuring that the impedance of the source (filter) equals the complex conjugate of the load impedance, i.e.,  $R_S + jX_S = R_L - jX_L$ , if considered in series. However, the introduction of a diode in parallel with a capacitor  $C_L$  in PETT would serve to complicate the impedance matching of the source and the load, and alter and possibly reduce or eliminate the benefits provided by the filter and matching circuits. Accordingly, contrary to the assertion in the outstanding Final Official Action that one would be motivated to modify PETT with the diode of ATKINSON, Applicant respectfully submits that such complications would be a motivation not to introduce a diode in the manner suggested by the Examiner.

With respect to the rejections of claims 1 and 14, the outstanding Final Official Action also asserts that PETT “inherently reduces reflections (i.e., echoes) and improves

reception of signals”. However, the Final Official Action does not provide any justification for this statement. In any case, Applicant respectfully submits that this assertion is in error. While PETT discloses that the matching circuit 62 provides impedance matching for the filter 60, there is no disclosure that the matching circuit 62 inherently reduces echoes from the original bridgetap such that the resonance characteristics will mimic a bridgetap of a longer length. In other words, the matching filter in PETT is not disclosed to reduce “the effect of echo from said bridgetap line” as recited in claims 1 and 14 (or to change “a resonance characteristic of said bridgetap line to that of a bridgetap line longer than 650 feet” as recited in claim 22); rather, the matching circuit 62 in PETT is disclosed only to match the impedance of the filter 60 in PETT.

Furthermore, the matching in PETT does not “inherently” reduce the “effect of echo from said bridgetap line” as asserted by the Examiner because, as noted in the present specification at, e.g., page 2, lines 17-19, the signal degradation generally defines a bell shaped curve between 250-650 feet, such that if one were, e.g., only to slightly increase the mimicked length of a 250 foot bridgetap, it is possible that the echo from a bridgetap could actually be worsened.

Thus, merely providing a filter as in PETT would not necessarily result in a reduction in the echo, and might result in a greater echo by, e.g., increasing the mimicked length of the bridgetap line only slightly in the region (of the bell-shaped curve) where the echo increases as the length increases. In any case, Applicant further submits that characteristics obtained by the disclosed bridged tap terminator of PETT (which, in any case, are not explicitly described in PETT) would be altered if one were to modify the

bridged tap terminator by placing a diode in parallel with the capacitor  $C_L$ . Accordingly, Applicant respectfully submits that the bridged tap terminator of PETT does not “inherently” reduce the effect of echo and/or change the resonance characteristic of a bridgetap line to that of a bridgetap line longer than 650 feet, contrary to the Examiner’s assertions.

Accordingly, there is no suggestion in the references to modify PETT with a diode in parallel with a capacitor to protect from surges, or to use the diode of ATKINSON in the bridged tap terminator of PETT. Rather, Applicant respectfully submits that the only motivation to modify PETT in the manner asserted in the outstanding Final Official Action is improper hindsight motivation to obtain the invention recited in Applicant’s claims 1, 14, 22 and 24. Further, Applicant submits that the outstanding Final Official Action fails to consider the complications that might result from modifying the bridged tap terminator in PETT with a diode in parallel to a capacitor.

In any case, Applicant respectfully submits that the bridged tap terminator in PETT is not disclosed to (and does not inherently) reduce the effect of echo from a bridgetap line, particularly if modified in the manner asserted in the Final Official Action. Further, such modifications might even increase the effect of echo from the bridgetap line. Moreover, Applicant respectfully submits that the bridged tap terminator in PETT has not been shown to inherently change a resonance characteristic of a bridgetap line to that of a bridgetap line longer than 650 feet.

Additionally, the adaptor recited in claims 14 and 24 has a capacitance of .04-2.0 microfarads. In contrast, PETT explicitly discloses a preference to use capacitance for

the capacitor  $C_L$  outside the range recited in claims 14 and 24. This capacitance disclosed in PETT, which is outside of the range recited in claims 14 and 24, is only the capacitance value of  $C_L$ , and does not take into consideration the capacitance of the matching circuit 60, including at least  $C_A$  in FIG. 7 and at least  $C_A$  and  $C_B$  in FIG. 8. Accordingly, it appears that the Examiner is improperly considering the teachings of the references in isolation, rather than considering the teachings of the references as a whole.

Accordingly, Applicant respectfully submits that even the combination of PETT and ATKINSON does not disclose, suggest or render obvious the combination of features recited in claims 1, 14, 22 and 24. Applicant additionally submits that no other reference or combination of references has been shown to disclose, suggest or render obvious the invention recited in claims 1, 14, 22 and 24; nor does the outstanding Final Official Action assert that any other reference discloses or renders obvious the above-noted combination of features recited in claims 1, 14, 22 and 24. In this regard, and as noted above, Applicant has shown that modification of PETT in the manner asserted in the Final Official Action is not obvious and would not inherently result in the invention recited in the claims of the present application.

Applicant further submits that motivation actually exists not to modify PETT in the manner asserted in the Final Official Action. Accordingly, the rejection of each of claims 1, 14, 22 and 24 relies on erroneous assertions and an erroneous interpretation of the applied references. Accordingly, because there is no suggestion or disclosure in any of the applied references of PETT, SCHMIDT, ATKINSON, MARTIN, or CHARLES, separately or in any proper combination, to obtain the combination of each and every element recited in claims 1, 14, 22 and 24, and because Applicant has shown motivation

not to modify the teachings of PETT in the manner asserted in the outstanding Final Official Action, Applicant asserts that these claims are not properly rejected as rendered obvious under 35 U.S.C. §103(a). Accordingly, Applicant traverses each of the rejections of claims 1, 14, 22 and 24, at least for the reasons set forth above. Applicant further traverses the rejections of claims 2-13, 15-21, 23 and 25 at least because each depends, directly or indirectly, from an allowable independent claim, as well as for additional reasons related to their own recitations.

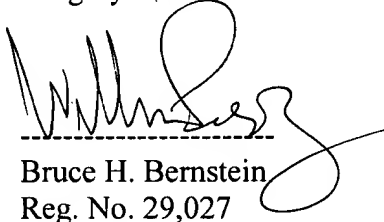
Applicant further requests, if the Examiner persists in maintaining the rejection of the claims over PETT as modified by the Examiner, that the Examiner consider the negative effects that each such modification (e.g., adding a diode in parallel to a capacitor, changing the capacitor value etc.) would have on the desirable characteristics disclosed as the benefits of the bridged tap terminator of PETT. In particular, Applicant respectfully requests that the Examiner cite each purported “motivation” to modify the apparatus of PETT, as well as the negative effects of such modification on the apparatus of PETT, if the Examiner continues to assert that it would be obvious to modify PETT to obtain the invention recited in Applicant’s claims.

SUMMARY AND CONCLUSION

Applicant has made a sincere effort to place the present application in condition for allowance and believes that he has now done so. Applicant has explained the combination of features recited in claims 1, 14, 22 and 24, and has shown how these features are not disclosed, suggested or rendered obvious by the combination of references applied in the outstanding Final Official Action. Accordingly, at least for the reasons set forth herein, Applicant respectfully requests reconsideration and withdrawal of each of the rejections, as well as an indication of the allowability of each of the claims now pending in due course.

Should the Examiner have any questions, please contact the undersigned at the telephone number provided below.

Respectfully submitted,  
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